

REMARKS

The Final Office Action mailed November 3, 2005, has been received and reviewed. Claims 1 through 29 are currently pending in the application. Claims 1 through 4 and 8 stand rejected. Claims 5 through 7 and 9 through 29 have been withdrawn. Applicants propose to amend no claims, and respectfully requests reconsideration of the application.

35 U.S.C. § 102(b) Anticipation Rejections

Anticipation Rejection Based on Ushijima (U.S. Patent No. 5,393,624)

Claims 1 through 3 and 8 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ushijima (U.S. Patent No. 5,393,624).

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference. *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987). The identical invention must be shown in as complete detail as is contained in the claim. *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

Applicants submit that the Ushijima references does not and cannot anticipate under 35 U.S.C. § 102 the presently claimed invention of presently presented independent claim 1, and claims 2, 3, and 8 depending therefrom, because the Ushijima reference does not describe, either expressly or inherently, the identical element of the invention in as complete detail as are contained in the claims.

The Final Office Action alleges:

In response to applicant's arguments with respect to the 35 U.S.C. § 102 and 103 rejections (pages 9-12) that the prior art does not suggest a sensing system for measuring an upper surface *over a semiconductor die including a previous material previously deposited thereon*, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In this case, the amendment is merely directed towards the structure of the substrate upon which the claimed apparatus operates upon. (Final Office Action, p. 4).

Applicants respectfully disagree.

Applicants' claimed invention recites:

1. A system for selectively depositing a material on a previously formed workpiece, comprising:
a platform for supporting the workpiece during a deposition process;
a sensing system for measuring an upper surface over a semiconductor die including a previous material previously deposited thereon of the workpiece and a surface level of a material deposited on the upper surface of the workpiece until the surface level of the material corresponds to a specific thickness of the material;
and
a deposition system for depositing the material on the workpiece to the specific thickness as monitored by the sensing system. (Emphasis added.)

Applicants' claim element of "a sensing system" is configured or capable of "measuring [1] and upper surface over a semiconductor die including a previous material previously deposited . . . and [2] a surface level of a material deposited on the upper surface of the workpiece" Again, Applicants' "sensing system" element includes both measuring capabilities. Such a claim limitation is not drawn to an "intended use" but rather to capabilities of the "sensing system." Accordingly, Applicants respectfully request such rejections be withdrawn.

For completeness in responding to the specific rejections of the Final Office Action, Applicants provide the following arguments.

The Final Office Action alleges:

Ushijima discloses system for selectively depositing a material on a previously formed workpiece, comprising a platform (Figure 2, item 10) for supporting the work piece during a deposition process, a sensing system (Figure 2, items 15, 16, and 507) for measuring an upper surface of the workpiece and a surface level of a material deposited on the upper surface of the workpiece until the surface level of the material corresponds to a specific thickness of the material (see, for example, Figures 10 and 11); and a deposition system (item 13) for depositing the material on a workpiece to the specific thickness as monitored by the sensing system (see Figures 10 and 11). (Office Action, p. 2).

Applicants respectfully disagree that the Ushijima reference anticipates Applicants' invention as claimed in presently presented independent claim 1 which reads:

1. A system for selectively depositing a material on a previously formed workpiece, comprising:
a platform for supporting the workpiece during a deposition process;
a sensing system for measuring an upper surface over a semiconductor die including a previous material previously deposited thereon of the workpiece and a surface level of a material deposited on the upper surface of the workpiece until the surface level of the material corresponds to a specific thickness of the material;
and
a deposition system for depositing the material on the workpiece to the specific thickness as monitored by the sensing system. (Emphasis added.)

In contrast, the Ushijima reference discloses:

The photosensor 15 of first thickness measuring mechanism 507 . . . is connected to an input unit of first thickness measuring mechanism 507 [and] light is projected from the sensor 15 toward a margin region 4 of the semiconductor wafer W, on which no chip 3 is formed. [] The sensor 15 has a light-receiving element. The light-receiving element ***receives only a light component of light reflected by the wafer W***. . . (Col. 5, lines 24-38; emphasis added).

Second thickness measuring mechanism 37 has the same arrangement as that of first thickness measuring mechanism 507 in the thickness measuring section 509 [namely] . . . a landing position of beam light 7 from second thickness measuring mechanism 37 is set on a scribe-area 6. More specifically, first thickness measuring mechanism 507 in the thickness measuring section 509 ***measures the thickness at the margin region (region on which no chip 3 is formed) 4 of the wafer W, while second thickness measuring mechanism 37 of the exposing section 530 measures the thickness at the scribe-area 6 of the wafer W.*** (Col. 6, lines 13-28; emphasis added).

The reason why the thickness is measured at the position of the scribe-area 6 is that it is difficult to measure a thickness at a region on which the chip 3 is formed since a three-dimensional pattern is formed on the undercoating layer of the wafer W, i.e, wafer surface. (Col. 6, lines 46-51).

Clearly, the Ushijima reference discloses measuring a thickness calculated by measuring reflected light from the surface of the wafer rather than “measuring an upper surface over a semiconductor die including a previous material previously deposited thereon of the workpiece” as claimed by Applicants.

Therefore, presently presented independent claim 1, and claims 2, 3, and 8 depending therefrom, cannot be anticipated by the Ushijima reference under 35 U.S.C. § 102. Accordingly, such claims are allowable over the cited prior art and Applicants respectfully request that such rejections be withdrawn.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 5,393,624 to Ushijima as applied to claims 1 through 3 and 8 above, and further in view of U.S. Patent No. 6,642,155 to Whitman et al.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Ushijima (U.S. Patent No. 5,393,624) as applied to claims 1 through 3 and 8 above and further in view of Whitman et al. (U.S. Patent No. 6,642,155). Applicant respectfully traverses this rejection, as hereinafter set forth.

M.P.E.P. 706.02(j) sets forth the standard for a Section 103(a) rejection:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings. Second, there must be a reasonable expectation of success. Finally, **the prior art reference (or references when combined) must teach or suggest all the claim limitations.** The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). (Emphasis added).

The 35 U.S.C. § 103(a) obviousness rejection of claim 4 is improper because the criteria for a *prima facie* case of obviousness are not met. Specifically, the rejection fails to meet the criterion that the prior art reference must teach or suggest all the claims limitations.

Regarding claim 4, which depends from presently presented independent claim 1, Applicants sustain the above-proffered arguments that Ushijima does not teach, disclose or motivate the claim limitations of Applicants' invention as claimed in presently presented independent claim 1. The Office Action introduces the Whitman reference and alleges:

As to claim 4, Ushijima discloses measuring the upper surface of the workpiece and the surface level of the deposited material (see rejection of claim 3 above), but does not disclose using separate sensors for each function.

However, Whitman discloses that it is known in measuring the thickness during spin coating operations to utilize multiple sensors. Whitman uses the multiple sensors to track coated and uncoated areas in order to properly coordinate the coating operation (as described in column 3). (Final Office Action, p. 3).

Even assuming arguendo, that the Whitman reference teaches multiple sensors, neither Ushijima nor Whitman, either individually or in any proper combination, teach, disclose or motivate the claim limitations of Applicants' invention as presently claimed, namely:

1. A system for selectively depositing a material on a previously formed workpiece, comprising:
a platform for supporting the workpiece during a deposition process;
a sensing system for measuring an upper surface over a semiconductor die including a previous material previously deposited thereon of the workpiece and a surface level of a material deposited on the upper surface of the workpiece until the surface level of the material corresponds to a specific thickness of the material;
and
a deposition system for depositing the material on the workpiece to the specific thickness as monitored by the sensing system. (Emphasis added.)

Therefore, Applicants respectfully request that the rejection of dependent claim 4 be withdrawn.

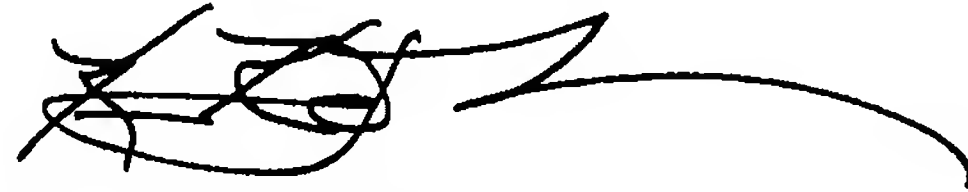
ENTRY OF AMENDMENTS/REMARKS

Applicants have amended no claims herein, however, the remarks are supported by the as-filed specification and drawings. Further, the remarks do not raise new issues or require a further search.

CONCLUSION

Claims 1-4, and 8 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, the Examiner is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,



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